

**EXHIBIT A**

**UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF PUERTO RICO**

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In re:

PROMESA  
Title III

THE FINANCIAL OVERSIGHT AND  
MANAGEMENT BOARD FOR PUERTO RICO,

as representative of

No. 17 CV 1685-LTS  
No. 17 BK 04780-LTS

PUERTO RICO ELECTRIC POWER AUTHORITY,

Debtor.

Tax I.D. No. 66-0433747

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AD HOC GROUP OF PREPA BONDHOLDERS,  
NATIONAL PUBLIC FINANCE GUARANTEE  
CORPORATION, ASSURED GUARANTY CORP.,  
ASSURED GUARANTY MUNICIPAL CORP.,  
AND SYNCORE GUARANTEE INC.

Movants.

THE FINANCIAL OVERSIGHT AND  
MANAGEMENT BOARD FOR PUERTO RICO,

as representative of

PUERTO RICO ELECTRIC POWER AUTHORITY.

Respondent.

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**DECLARATION OF ANDREW WOLFE IN SUPPORT OF  
OPPOSITION OF THE FINANCIAL OVERSIGHT  
AND MANAGEMENT BOARD FOR PUERTO RICO TO THE  
MOTION OF THE AD HOC GROUP OF PREPA BONDHOLDERS,  
NATIONAL PUBLIC FINANCE GUARANTY MUNICIPAL CORP.,  
ASSURED GUARANTY CORP., ASSURED GUARANTY MUNICIPAL  
CORP., AND SYNCORA GUARANTEE INC.FOR RELIEF FROM THE  
AUTOMATIC STAY TO ALLOW MOVANTS TO ENFORCE THEIR  
STATUTORY RIGHT TO HAVE A RECEIVER APPOINTED**

Pursuant to 28 U.S.C. § 1746, I, Andrew Wolfe, hereby declare as follows under penalty of perjury under the laws of the United States of America:

1. I am an economic advisor to the Financial Oversight and Management Board for Puerto Rico (the “FOMB”), a Fiscal Consultant for the Inter-American Development Bank and an Adjunct Professorial Lecturer at both the School of International Service at American University in Washington, D.C. and the Baker Institute for Public Policy at Rice University in Houston, Texas. I make this declaration in opposition to the motion by the Ad Hoc Group of PREPA Bondholders, National Public Finance Guarantee Corporation, Assured Guaranty Corp., Assured Guaranty Municipal Corp., and Syncora Guarantee Inc. (“Movants”) for relief from the automatic stay (Dkt. 75) (“Lift-Stay Motion”). Except as otherwise stated, or where I present information from cited materials, I make this declaration based on my personal knowledge.

2. For purposes relevant here, I have been asked by the FOMB, as the representative for the Commonwealth of Puerto Rico (the “Commonwealth” or “Puerto Rico”) and the Puerto Rico Electric Power Authority (“PREPA”) pursuant to section 315(b) of the Puerto Rico Oversight, Management, and Economic Stability Act (“PROMESA”), to provide my opinions regarding the macroeconomic issues surrounding the growth expectations for the Commonwealth, including any effect a lift of the stay to allow appointment of a receiver that would allow Movants to, among other things, seek a forced increase in the electric power rates, may have on the prospect of success for ending the Commonwealth’s negative economic growth and achieving sufficient positive growth to achieve fiscal and debt sustainability and capital market access.

## I. QUALIFICATIONS

3. A copy of my curriculum vitae is attached and marked as Exhibit 1. To avoid burdening the Court, I am not attaching copies of articles and other materials referenced in this declaration. However, I will provide copies of all or any of these materials upon request.

4. I have been employed as an advisor to the FOMB on a contract basis since November 17, 2016. As part of that engagement, I was asked to consult with the FOMB on the certification of a fiscal plan for the Commonwealth and to evaluate the macroeconomic framework underlying the fiscal plans proposed by the Governors of Puerto Rico. My role as advisor to the FOMB also included reviewing the fiscal plan developed by PREPA. PREPA's fiscal plan was certified by the FOMB on April 28, 2017, as amended (the "PREPA Fiscal Plan").<sup>1</sup>

5. Two of my former colleagues at the International Monetary Fund (the "IMF"), Ranjit Teja and Anne Krueger, and I previously had been retained by the Government Development Bank of Puerto Rico (the "GDB"). Dr. Krueger is a distinguished economist and the former First Deputy Managing Director of the IMF. The GDB retained us in 2015 to complete an in-depth report on the macroeconomic condition of the Commonwealth. The resulting report that I co-authored with Dr. Krueger and Dr. Teja was entitled "Puerto Rico - A

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<sup>1</sup> A copy of the FOMB's April 28, 2017 Resolution certifying the PREPA Fiscal Plan as modified by the amendments set out in the Resolution is available at <https://juntasupervision.pr.gov/wp-content/uploads/wpfd/50/590926a5960ce.pdf>. The PREPA Fiscal Plan dated April 28, 2017 is available at <https://juntasupervision.pr.gov/wp-content/uploads/wpfd/50/590a2c5d7d41d.pdf> and <http://www.aafaf.pr.gov/assets/fiscal-plan---pr-electric-power-authority.pdf>.

Way Forward” and is commonly referred to as the “Krueger Report.”<sup>2</sup> Our report addressed the economic and fiscal origins of the Commonwealth’s debt crisis and provided a roadmap for a potential path forward. In the Krueger Report, we concluded that the fiscal crisis in Puerto Rico had been building for decades, and we examined why prior efforts to head off that economic crisis were inadequate.

6. In addition to serving as FOMB’s economic advisor, a fiscal consultant and an educator, I worked at the IMF for 27 years. When I left the IMF in 2014, I was the Head of the IMF Human Resource Strategy Unit, and immediately before that, I was the Senior Personnel and Budget Manager of the Western Hemisphere Department. During my years at the IMF, I previously acted as IMF Mission Chief in El Salvador, Columbia, the Dominican Republic, Uruguay and Peru, and IMF Resident Representative in Uruguay, Argentina and Peru. My responsibilities in those positions included leading negotiations on IMF-supported programs, monitoring fiscal deficits in those countries, as well as examining whether IMF financial and economic projections were met. While at the IMF, and relevant to the issues here, I set policy reform agendas for lending programs in coordination with senior advisors at the IMF and senior financial officials for the governments in question. I also oversaw the IMF teams who monitored performance of those countries pursuant to such lending programs and whether those countries adhered to agreed upon structural reforms and fiscal and monetary programs.

7. Among other specialties, and of particular relevance here, I consider myself to be a macroeconomist. As a macroeconomist, I study how an aggregate economy works and analyze the impact of various factors including, but not limited to, changes in population, unemployment,

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<sup>2</sup> The Krueger Report and a July 13, 2015 update are available at, respectively, <http://www.gdb-pur.com/documents/PuertoRicoAWayForward.pdf> and <http://www.gdb-pur.com/documents/PuertoRicoReport-Update.pdf>.

the rate of growth, inflation, income and price levels. I was awarded a Ph.D. in Economics from the University of Wisconsin in 1985. In 1978, I received a B.S.E. in Economics and a B.A.S. in Engineering from the University of Pennsylvania.

## II. OVERVIEW OF OPINIONS

8. After implementation of certain structural reforms described in the Commonwealth Fiscal Plan, my analysis revealed that Puerto Rico's nominal gross national product ("GNP") growth will reach 2.6% by fiscal year 2026. This 2.6% nominal GNP growth includes a 1.6% inflation assumption, which means that the "real" economic growth (*i.e.*, the actual increase in activity in an economy) should reach 1.01% by fiscal year 2026.<sup>3</sup>

9. If, by 2026, Puerto Rico's real economic growth is 1.01%, the Commonwealth will be well placed for achieving fiscal sustainability, be able to regain access to capital markets and attract the investment necessary for continued economic growth and meeting its obligations under appropriate debt restructuring. In my opinion, achieving real economic growth of 1.01% will allow for a sustainable fiscal resource envelope for debt service in the future. By "resource envelope," I mean the calculation of the primary surplus, which is the difference between total tax and non-tax revenue minus total non-debt service expenditures. Simply stated, a primary surplus for an entity participating in the municipal bond market means that the income is greater than expenses before accounting for interest and principal.

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<sup>3</sup> The March 13, 2017 Commonwealth Fiscal Plan, with corrections, pp. 10, 16, *available at* <https://juntasupervision.pr.gov/wp-content/uploads/wpfd/50/58f614473f619.pdf>. (The FOMB's Resolution certifying the Commonwealth Fiscal Plan as modified by the amendments set out in the Resolution is available at <https://juntasupervision.pr.gov/wp-content/uploads/wpfd/50/58f614484710d.pdf>.) The Commonwealth Fiscal Plan is also available at <http://www.aafaf.pr.gov/assets/corrections-to-the-march-13th-certified-plan.pdf>. Unlike real economic growth, Nominal GNP Growth does not break out the effect of inflation. Real GNP, as opposed to nominal GNP, controls for inflation and is the standard measure of the health of an economy.

10. I conducted a sensitivity analysis to ascertain the minimum amount of real economic growth necessary to sustain the Puerto Rico economy. I concluded that Puerto Rico's real economic growth needs to reach at least 0.8% to achieve fiscal and debt sustainability. In my opinion, a rate below this 0.8% threshold would result in a fiscal path of eventual and progressively declining primary surpluses. Stated differently, if Puerto Rico's real economic growth were to fall below the 0.8% threshold, a downward economic spiral would occur and Puerto Rico would be unable to regain access to capital markets and attract the investment necessary for economic growth and payment of debt service.

11. As discussed in more detail below, I analyzed what the impact on real economic growth would be if the automatic stay is lifted, a receiver is appointed, and PREPA's electricity rates are increased. As set out in its Fiscal Plan, PREPA's current rate is \$0.198 per kilowatt-hour ("kWh"). I concluded that raising PREPA's blended rate to anything over \$0.214 per kWh (that is, any increase in excess of \$0.016 per kWh to the current rate) would greatly increase the risk of reducing economic growth below the minimum amount of real economic growth necessary for Puerto Rico to achieve fiscal and debt sustainability.<sup>4</sup> In addition, I concluded that any increase in PREPA's rates from its current blended rate of \$0.198 per kWh at a pace that is disproportionate with rate increases adopted by those countries vying with Puerto Rico for tourism and manufacturing business would not create that competitive-improving environment that is assumed to result from the reform in the energy sector and thus would greatly increase the risk of also reducing the estimated real economic growth below the 0.8% minimum threshold required.

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<sup>4</sup> An increase to a rate of \$0.214 per kWh or less is generally consistent with the FY23 "target rate" of \$0.21 per kWh that is set out in the amendments to the certified PREPA Fiscal Plan.

12. It is my opinion that (i) adopting a rate above \$0.214 per kWh or (ii) increasing the rate (even if not above \$0.214 per kWh) at a pace that is disproportionate to rate increases adopted by other Caribbean countries and the U.S. mainland region would eventually contribute to a downward economic spiral that would result in Puerto Rico returning to a path of declining economic activity, which would in turn adversely impact the demand for electricity and in the end lead to another debt service payments crisis for PREPA. Put another way, while the PREPA bondholders might benefit in the short term from an increase in PREPA rates, over the mid and long term their holdings would again be exposed to a payment and valuation crisis.

13. In reaching my opinion regarding the maximum rate increase and the need that any rate increase be at a proportionate pace to rate increases in areas that compete with Puerto Rico for tourism and manufacturing business, I have assumed that projections of inflation, fuel prices and other external factors are consistent with the projections set out in the Fiscal Plan. An increase in one or more of these factors could result in an increase in the maximum rate I have described (or affect the timing by which any rate increase is implemented). Thus, for example, if fuel prices or inflation rise more rapidly than projected, PREPA might be required to increase its rate to an amount in excess to \$0.214.

14. Finally, it is my opinion that, if the Puerto Rico economy fails to meet the 0.8% minimum real economic growth threshold required to achieve fiscal sustainability, the factors leading to and accompanying the current economic and fiscal crisis, including the loss of working-age population, the continued low level of Puerto Rico's labor force participation rate, the trend decline in GNP, declining socioeconomic conditions and infrastructure deterioration, will worsen.



15. While I reviewed and considered certain materials and information provided by others, all of the analyses and opinions stated herein are my own.

### **III. RELEVANT FACTUAL BACKGROUND TO OPINIONS**

16. Based on all the work that I have done, it is my belief that the Commonwealth and its instrumentalities, including PREPA, are in dire economic and fiscal condition. An economic recession that began in 2006 has continued essentially unabated ever since.

17. As the recession continued, Puerto Rico financed its fiscal deficits by issuing debt. According to the Commonwealth Fiscal Plan, the total public-sector debt for Puerto Rico stands at \$73.810 billion.<sup>5</sup>

18. The economic crisis, in my view, has reached an emergency stage. As is evident by the PROMESA Title III petitions filed by the Commonwealth, PREPA and certain other Commonwealth agencies, the Commonwealth and its instrumentalities, including PREPA, cannot pay their current operating expenses out of current revenues, much less service the debt burden they have accumulated. Nor can the Commonwealth refinance that debt as Puerto Rico no longer has access to the capital markets.

19. Since 2007, Puerto Rico's real GNP has declined by more than 14%. Real growth has been negative in each of the last ten years, except for 2012, when it reached only 0.5%.<sup>6</sup>

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<sup>5</sup> Commonwealth Fiscal Plan, *supra* note 3, p. 27.

<sup>6</sup> Statistical Appendix of the Economic Report for the Governor and Legislative Assembly, GDB, *available at* <http://www.gdb-pur.com/economy/statistical-appendix.html>. I use GNP instead of Gross Domestic Product ("GDP") because GNP is the measure of national income that best ties to the base for tax collections. Published data from the GDB provide measurements of nominal GNP and real GNP in constant 1954 dollars.

20. In 2016, Congress passed and the President signed PROMESA, which I understand, among other things, created the FOMB to help the Commonwealth restructure its debt and reform and revitalize its economy.

21. As an economic advisor to the FOMB, it is my understanding that PROMESA directs the Governor to initially develop a fiscal plan for the Commonwealth and grants the FOMB the sole discretion to determine whether to certify such a plan. PROMESA further prescribes certain goals and requirements for a fiscal plan, including providing Puerto Rico with long-term, sustainable, economic growth, fiscal responsibility, and access to the capital markets while ensuring that the population continues to receive necessary services and adequate pensions.

22. The Commonwealth proposed a fiscal plan to increase the Government's revenues and reduce its expenditures. Most importantly, it proposes a package of structural reforms to improve the ease of business activity, improve capital efficiency and promote economic development, provide for energy reform, and reform the corporate tax system.<sup>7</sup> My opinions herein are based upon the information I reviewed (and referenced herein), the analysis I undertook and the work I personally performed (or that took place under my direction and supervision), pertaining to the macroeconomic issues described in this declaration.

23. It is my belief that the issues that drove the Commonwealth and PREPA into the current economic and fiscal crisis included, among other factors, the loss of working age population, the continued low level of Puerto Rico's labor force participation rate, the trend decline in GNP, declining socioeconomic conditions and infrastructure deterioration.

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<sup>7</sup> Commonwealth Fiscal Plan, *supra* note 3, p. 24.

**A. Loss of Working-Age Population**

24. According to Puerto Rico's Institute of Statistics, emigration has reached historic highs. The present migratory wave is on pace to be bigger than the "Great Exodus" of 1945-1960 that saw the departure of 500,000 Puerto Ricans. Moreover, the emigration trends appear to be continuing.<sup>8</sup>

25. Based on population data from the U.S. Census Bureau, the total population of Puerto Rico has declined by approximately 10% over the 10-year period beginning in 2007, from 3.78 million people to 3.41 million.<sup>9</sup>

26. It appears to me that this exodus from Puerto Rico shows no signs of abating. U.S. Census Bureau data shows that the rate of the population's contraction has accelerated in virtually every year. In 2010, the rate of contraction was 0.50%; by 2016, the rate had increased to 1.78%.<sup>10</sup> Recent projections from the Commonwealth's Planning Board predict a population of only 3,165,354 inhabitants by 2027.<sup>11</sup>

27. I believe that the substantial, and accelerating, exodus of Puerto Rico's population, principally to the mainland United States, is both a product and a cause of the current

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<sup>8</sup> 2015 Migrant Profile, Puerto Rico Institute of Statistics ("2015 Migrant Profile"), *available at* <http://www.estadisticas.gobierno.pr/iepr/LinkClick.aspx?fileticket=-QE6ciplqIQ%3d&tabid=165>.

<sup>9</sup> Population Estimates by Year, U.S. Census Bureau, *available at* <https://www2.census.gov/programs-surveys/popest/datasets/2010-2016/national/totals/>.

<sup>10</sup> *Id.*

<sup>11</sup> Ricardo Cortés Chico, "Population Decline Underestimated," *El Nuevo Día* (Apr. 16, 2017), *available at* <https://www.elnuevodia.com/english/english/nota/populationdeclineunderestimated%C2%A0-2311478/>.

economic crisis.<sup>12</sup> In my view, continued population declines at this rate or at higher rates would cause further declines in GNP. Moreover, those GNP declines, in turn, would accelerate further population declines.

28. Compounding the harm from this total population decline is the loss of a disproportionate share of Puerto Rico's younger citizens and current and future taxpayers.<sup>13</sup> It is my belief that the loss of younger citizens results in a population that is aging overall which, in turn, depresses the birth rate and contributes to a natural decline in population growth and a population mix where a decreasing number of working-age people support a growing retired and elderly non-working population. In my view, when this trend is layered on top of an accelerating pace of emigration, the prospects for turning around the population trends become bleaker.

29. Moreover, a smaller population necessarily translates into a shrinking tax base, which in turn strains government finances.<sup>14</sup>

30. Making the situation even worse, the Puerto Rico Institute of Statistics data I reviewed confirmed my belief that the composition of the emigrating group is changing, with a larger number of higher-educated, professional-class residents leaving Puerto Rico than in the past.<sup>15</sup> In my view, the increased loss of higher-educated, professional-class residents may have

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<sup>12</sup> D. Andrew Austin, Cong. Research Serv., R44095, Puerto Rico's Current Fiscal Challenges, at 1, 19 (2016), *available at* <https://fas.org/sgp/crs/row/R44095.pdf>.

<sup>13</sup> *Id.* at 19.

<sup>14</sup> Jaison R. Abel and Richard Deitz, *The Causes and Consequences of Puerto Rico's Declining Population*, Federal Reserve Bank of New York, Current Issues in Economics and Finance, vol. 20, no. 4, at 1 (2014), *available at* [https://www.newyorkfed.org/medialibrary/media/research/current\\_issues/ci20-4.pdf](https://www.newyorkfed.org/medialibrary/media/research/current_issues/ci20-4.pdf).

<sup>15</sup> 2015 Migrant Profile, *supra* note 8, at 4.

a greater impact on the Commonwealth's gross economic condition because of those emigrants' higher earning power (which affects GNP) and higher tax brackets (which affect tax revenues).

31. Declining population numbers have also been accompanied by a decline in Puerto Rico's labor force. Total employment fell from 1.25 million in 2007 to less than 1 million in 2016.<sup>16</sup> In the absence of job prospects, the labor-participation rate declined to 40%, two-thirds of the level on the U.S. mainland.<sup>17</sup>

#### **B. Low Level of Labor Force Participation**

32. The current labor force participation rate of around 40% is extremely low. For instance, there is concern of the slipping labor force participation rate on the mainland and the implications for longer-term growth – and that is a concern when the rate is in the 60% range. Needless to say, reforms aimed at boosting labor force participation are essential to reverse the negative trend in real GNP growth to the positive 1% envisaged in the fiscal plan.

#### **C. Decline in Trend GNP**

33. I believe that the outmigration of Puerto Rico's population and declining labor force has been both a cause and an effect of declines in Puerto Rico's real GNP. For example, according to data supplied by the GDB, the economy has contracted by 14.1% in the past decade (as measured in constant 1954 dollars) and has marched in step with the estimated 6% decline in working-age population over this same period.<sup>18</sup>

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<sup>16</sup> Joseph E. Stiglitz & Martin Guzman, *From Bad to Worse for Puerto Rico* (Feb. 28, 2017), Project Syndicate, *available at* <https://www.project-syndicate.org/commentary/puerto-rico-debt-plan-deep-depression-by-joseph-e--stiglitz-and-martin-guzman-2017-02>.

<sup>17</sup> *Id.*

<sup>18</sup> Statistical Appendix of the Economic Report, *supra* note 6.

34. There has not been any sign that the contraction in Puerto Rico's economy would abate absent the implementation of the Commonwealth Fiscal Plan's structural reforms to improve the ease of business activity, improve capital efficiency and promote economic development, provide for energy reform, and reform the system of corporate taxation. While the greatest contractions in Puerto Rico's GNP occurred during the recent global financial crisis, the negative growth trend has continued even after the U.S. economy as a whole has rebounded.<sup>19</sup>

**D. Declining Socioeconomic Conditions and Infrastructure Deterioration**

35. I understand that a significant percent of Puerto Rico's population is receiving welfare, informally employed (*i.e.*, work outside the tax system that has little or no job security or benefits) or both.<sup>20</sup> Some 46% of Puerto Rico residents lived below the poverty line in 2014 – as compared to 16% in the United States and 22% in Mississippi (the U.S. state with the highest percentage of residents below the poverty line).<sup>21</sup> Approximately 60% of Puerto Rico's children live in poverty.<sup>22</sup>

36. The overall cost of living in Puerto Rico is 13% higher than in 325 urban areas surveyed by the Puerto Rico Institute of Statistics.<sup>23</sup> I understand that the cost of living in the

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<sup>19</sup> Gross National Product in Constant Dollars for United States, FRED (2012), *available at* <https://fred.stlouisfed.org/series/Q0896BUSQ008SNBR>.

<sup>20</sup> H.R. REP. NO. 114-602, pt. 1, at 118 (2016), *available at* <https://www.congress.gov/114/crpt/hrpt602/CRPT-114hrpt602-pt1.pdf>.

<sup>21</sup> S. HRG. NO. 114-307, at 86 (2016), *available at* <https://www.finance.senate.gov/imo/media/doc/20867.pdf>.

<sup>22</sup> Stiglitz & Guzman, *supra* note 16.

<sup>23</sup> H.R. REP. NO. 114-602, pt. 1, at 111 (2016).

San Juan metropolitan area, where 70% of Puerto Rico's population lives, has been ranked 35th highest out of 296 U.S. metropolitan areas.<sup>24</sup>

37. It is my belief that Puerto Rico needs reinvestment in infrastructure, especially in roads and power. The oil and diesel plants run by PREPA are old, inefficient, and unreliable – and the price of electricity on the Island is significantly higher than in regional comparator islands.<sup>25</sup> Puerto Rico routinely experiences rolling blackouts, and the situation can be even worse during hurricane season.<sup>26</sup> The Puerto Rico Highways & Transportation Authority (a Commonwealth instrumentality) has faced serious financial challenges, with cost overruns and operating deficits.<sup>27</sup> Puerto Rico Aqueduct and Sewer Authority (yet another governmental entity) had to postpone an offering of revenue bonds needed to pay contractors and the GDB and to improve infrastructure.<sup>28</sup>

38. In my view, a continuation of these conditions will lead to further economic contraction and is unsustainable.

#### **IV. ANALYSIS AND OPINIONS**

39. The goal of my assignment in doing the research and analysis that Dr. Krueger, Dr. Teja and I did in Puerto Rico in 2015, and in writing our report, was to understand and evaluate how Puerto Rico had accumulated so much debt (\$74 billion, not including pension liabilities) when my understanding was that the Commonwealth had been maintaining that it was running a balanced budget.

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<sup>24</sup> S. HRG. NO. 114-307, at 128 (2016).

<sup>25</sup> Austin, *supra* note 12, at 15-16.

<sup>26</sup> H.R. REP. NO. 114-602, pt. 1, at 121 (2016).

<sup>27</sup> Austin, *supra* note 12, at 18.

<sup>28</sup> *Id.*

40. It quickly became clear to me that the idea of a balanced budget was not a correct assumption. From what I could see, the balanced budget was limited to a small portion of the Commonwealth's government, the Puerto Rico General Fund ("Fund"), which was about 1/3 of total spending in Puerto Rico, and only when that Fund was examined on a strictly cash basis, which is not consistent with IMF fiscal standards.

41. Based on my work in 2015, I concluded it was necessary to look at the Commonwealth in a holistic sense. To do this, my colleagues and I undertook to line up all revenue sources and expenditures, project revenues and expenditures forward using standard IMF methodologies that I had used in the past, and compare the resulting resource envelope to the contracted debt service obligations coming due. Our analysis did not look at individual debt issues. Rather, we looked at a broad macro view as to whether the Commonwealth's debt was sustainable; in my opinion, it was not.

42. As part of my work as a consultant for the FOMB, I worked with representatives of DevTech Systems, Inc. ("DevTech"). I understand that DevTech is an international consulting firm that provides advisory services and technical assistance to the government and private sectors. I helped DevTech improve and refine the macroeconomic model it was using for Puerto Rico. That macroeconomic model, used to determine the annual growth rate underlying an economy, is anchored on macroeconomic drivers of growth that are not necessarily endogenous to economic policies, and therefore can identify a policy-agnostic path for real GNP. I satisfied myself that the model and inputs used by DevTech were correct. I also confirmed for myself DevTech's conclusion that Puerto Rico's underlying economic growth rate was currently contracting at a rate of -1.5% annually.



43. Having confirmed that (a) the underlying economic growth rate was -1.5% annually and (b) Puerto Rico's economy would achieve fiscal stability if the real economic growth rate reached 1.01% by fiscal year 2026, I conducted a sensitivity analysis to ascertain the minimum amount of real economic growth necessary to sustain the Puerto Rico economy.

44. The macroeconomic model I used to perform my sensitivity analysis primarily depended on three factors: general inflation, general health care inflation and real economic growth in Puerto Rico. The model also applies a conventional Keynesian multiplier to assess the impact of fiscal consolidation on real economic growth and employs IMF research on the impact of structural reforms on real economic growth.<sup>29</sup> Specifically, the model applies a multiplier of 1.34, meaning that every \$1 that was added to or taken out of the economy had an impact of \$1.34 on real economic activity. The model uses the 1.34 multiplier based on estimates in a study in the American Economic Review<sup>30</sup> (widely recognized as one of the most esteemed economic publications), which studied U.S. regional fiscal-expenditure shocks on regional economies. This multiplier of 1.34 is conservative; other studies I reviewed suggest that a larger multiplier should be used in crisis situations such as that presented in Puerto Rico.<sup>31</sup>

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<sup>29</sup> "Assessing the Gains From Structural Reforms for Jobs and Growth", D. Anderson, B. Barkbu, L. Lusinyan, and D. Muir, Chapter 7 in Jobs and Growth: Supporting the European Recovery, IMF, April 2014, *available at* <https://www.imf.org/external/np/seminars/eng/2014/EurBook/pdf/7.pdf>.

<sup>30</sup> Emi Nakamura, Jón Steinsson, 2014. "Fiscal Stimulus in a Monetary Union: Evidence from US Regions," American Economic Review, American Economic Association, Vol. 104 (3), pages 753-92 (March), *available at* <https://www.aeaweb.org/articles?id=10.1257/aer.104.3.753>.

<sup>31</sup> Oliver Blanchard and Daniel Leigh, 2013. "Growth Forecast Errors and Fiscal Multipliers," American Economic Review, American Economic Association, vol. 103(3), pages 117-20, May, *available at* <https://www.aeaweb.org/articles?id=10.1257/aer.103.3.117>.

45. Based upon my own economic modeling and analysis, it is my opinion that Puerto Rico's real economic growth needs to reach at least 0.8% to achieve fiscal and debt sustainability. To reach this conclusion, among other things, I tested various growth rates to see where the breakpoint was in providing sufficient resources to pay back restructured debt in a sustained manner. From my analysis, a rate below this 0.8% threshold would result in a fiscal path of too low and eventually declining primary surpluses. If Puerto Rico's real economic growth were to fall below the 0.8% threshold, a downward economic spiral would occur and Puerto Rico would be unable to regain access to capital markets and attract the investment necessary for economic growth and appropriate restructuring to occur.

46. I undertook to ascertain the impact, if any, that the relief requested by Movants in the Lift-Stay Motion would have on Puerto Rico's real economic growth.

47. Based upon my review of the motion, I understand that Movants assert that: (i) lifting the automatic stay and appointing a receiver creates "little actual harm [to] (and should benefit)" PREPA, (ii) compelling PREPA to charge higher rates "to cover expenses and service debt obligations" does not harm PREPA, (iii) lifting the stay would not impair other creditors' rights and leave other creditors "largely unaffected"; and (iv) Puerto Rico residential electricity rates are significantly below that of other islands.<sup>32</sup>

48. Based on my review of the macroeconomic and historical condition of Puerto Rico, I believe that electricity costs are central to the cost of living and conducting business in Puerto Rico.

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<sup>32</sup> Lift-Stay Motion, p. 30–32.

49. For example, energy is the second biggest financial factor in the budget for several sectors, especially for tourism.<sup>33</sup> Tourism is a potential area for significant growth in Puerto Rico. Currently Puerto Rico's tourism is relatively small (6% of GDP) compared with that of its principal competitor in the Caribbean islands, the Dominican Republic. In order for Puerto Rico to become competitive in the tourism sector as compared to the Dominican Republic, Puerto Rican energy prices need to be reduced, not increased. For several years, Puerto Rican electricity rates have been higher than those of the Dominican Republic, with the most recent analysis indicating that Puerto Rico's electricity rates are some 11% higher than those in the Dominican Republic.<sup>34</sup> Even though the Dominican Republic's electricity system has provided poor service, including frequent brownouts, and has relatively high costs, Puerto Rico's costs remain higher with equivalent poor service. In addition, other important competitors for tourism, such as Florida and Cancun, Mexico, have far lower electricity costs based on the structural advantages of having their energy sectors tied to larger grids.<sup>35</sup> Thus, there is little scope for error in reducing electricity costs on the Island to their most efficient levels possible.

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<sup>33</sup> See, e.g., Robert Mandelbaum, *An examination of hotel labor costs*, HOTEL MANAGEMENT (Nov. 21, 2016, 11:53 AM), <http://www.hotelmanagement.net/operate/examination-hotel-labor-costs> (2015 study results indicating that operating expenses are the second highest factor for hotel expenses); Robert Mandelbaum, *Consumption and Pricing Influence Hotel Utility Costs*, CBRE HOTELS, <http://www.cbrehotels.com/EN/Research/Pages/Consumption-and-Pricing-Influence-Hotel-Utility-Costs.aspx> (last visited July 25, 2017) (electricity is the largest utility expense comprising 60 percent of total utility expenses for U.S. lodging industry).

<sup>34</sup> Region: Latin America & the Caribbean, CLIMATESCOPE 2016, *available at* <http://global-climatescope.org/en/region/lac/> (last visited July 25, 2017); World Bank Doing Business: Getting Electricity—Standardized Connection, *available at* <http://www.doingbusiness.org/Custom-Query> (2017 data of Puerto Rico price of \$0.245 per kWh and the Dominican Republic price of \$0.22 per kWh).

<sup>35</sup> See, e.g., Electricity Data – Table 5.6.A. Average Price of Electricity to Ultimate Customers by End-Use Sector, by State, April 2017 and 2016, U.S. Department of Energy, updated June 23,

50. For example, assuming that the Dominican Republic continues to increase its electricity prices in line with projected oil price hikes to 2023, Puerto Rico may not increase its rate more than approximately 8.58% of the FY17 rate – *i.e.*, to no more than \$0.214 per kWh – by FY23 if Puerto Rican rates are to converge to at least the rates in the Dominican Republic. Of course, for PREPA’s medium and long term viability, the objective should be for a reform of the electricity sector in Puerto Rico that would lower Puerto Rican energy costs to below the levels in the Dominican Republic.

51. Electricity rates also play a significant role in attracting and maintaining manufacturing in Puerto Rico. As of December 2015, PREPA electricity rates were still higher than in all U.S. states other than Hawaii.<sup>36</sup> Recent residential electricity prices in Puerto Rico have been about 57% higher than U.S. mainland electricity rates, while commercial electricity rates are 113% higher.<sup>37</sup>

52. In sum, I believe that if Puerto Rico is going to become competitive in the region for tourism and manufacturing, which is essential to meeting the goals and requirements of PROMESA, it must begin by reducing the electricity costs for its business consumers. I believe that increasing the electricity costs will severely hurt the competitiveness of Puerto Rican tourism in the region and existing manufacturing on the Island.

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2017, *available at*

[https://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.php?t=epmt\\_5\\_6\\_a](https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=epmt_5_6_a) (last visited July 25, 2017) (showing a range of \$0.0771 per kWh to \$0.1158 per kWh electricity prices across residential, commercial, industrial, and transportation sector customers in Florida in April 2017).

<sup>36</sup> Puerto Rico Territory Energy Profile – Analysis, U.S. Department of Energy, updated April 5, 2016, *available at* <https://www.eia.gov/state/print.php?sid=RQ> (last visited July 24, 2017).

<sup>37</sup> Puerto Rico Territory Energy Profile – Data, U.S. Department of Energy, updated July 20, 2017, *available at* <https://www.eia.gov/state/print.php?sid=RQ> (last visited July 24, 2017).

53. Based on my analysis and assuming no changes to the projections of inflation, fuel prices and other external factors that underlie my opinion, a rate increase by PREPA above \$0.214 per kWh or increases to PREPA's rates at a faster or greater pace than increases adopted by Puerto Rico's tourism and manufacturing competitors in the Caribbean and the U.S. mainland regions would contribute to preventing the Commonwealth from reversing its negative economic growth and would sharply raise the risk of not allowing the minimum 0.8% real economic growth rate required to achieve fiscal sustainability. If the minimum real economic growth rate of 0.8% is not achieved, the Commonwealth's restructuring will not succeed and it will instead continue on a path of declining economic activity that will adversely impact the demand for electricity and in the end lead to another debt service payments crisis for PREPA. In this event, any short-term benefit PREPA bondholders might obtain from an immediate rate increase would likely be eradicated in the mid and long term as their holdings would again be exposed to a payment and valuation crisis.

54. My conclusion and opinion is that reform of the energy sector is integral to moving trend growth from the current -1.5% annual contraction to the 1.01% real economic growth projected in the Commonwealth Fiscal Plan. Specifically, the projections attribute 0.5% of the trend growth improvement to energy reform.<sup>38</sup> All facets of the reform (including a competitive rate structure and an investment program that ensures a steady supply of electricity and implementation of modern technologies) are interrelated and are necessary conditions to achieve the projected 0.5% attributable to energy reform and thus the overall 1.01% projected real economic growth.

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<sup>38</sup> "Assessing the Gains From Structural Reforms for Jobs and Growth," *supra* note 29.

55. The impact on real economic growth that would occur if the automatic stay on litigation is lifted, a receiver is appointed, and PREPA rates were to increase in excess of \$0.214 per kWh or at a pace that is disproportionate from that of its competitors is significant. Such an increase would not allow the competitive-improving environment that is assumed to result from the reform in the energy sector to be achieved. In turn, this would greatly raise the risk of not achieving the assumed 0.5 percentage points of additional growth from energy market reform – resulting in an estimated real economic growth by fiscal year 2026 of as little as 0.61%, below the 0.8% minimum threshold required to achieve fiscal sustainability.

56. I also believe that there is little or no ability to have the Commonwealth seek to generate larger surpluses than already outlined in the Commonwealth Fiscal Plan (by implementing stricter measures so that any particular creditor can receive full payment), because the medium term real economic growth rate in the Commonwealth Fiscal Plan of 1.01% is near the bare minimum to sustain primary surpluses going forward for future debt service.

57. I believe that, if the Puerto Rico economy fails to meet the 0.8% minimum threshold required to achieve fiscal sustainability, the factors identified above as leading to and accompanying the current economic and fiscal crisis (*i.e.*, the loss of working age population, the continuance of Puerto Rico's low labor force participation rate, the decline in trend GNP, declining socioeconomic conditions and infrastructure deterioration) would worsen and the economy would continue to erode. This is because, without this minimum growth rate, one cannot attract the necessary investment to propel the economy forward.

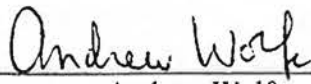
58. Indeed, in my view, lifting the stay, appointing a receiver and allowing PREPA to increase its electricity rates to in excess of a blended \$0.214 per kWh or at a pace that is disproportionate (in either speed or margin) to its competitors would contribute to Puerto Rico's

real economic growth to fall below the 0.8% threshold, and there would be a real risk that the situation in Puerto Rico could rapidly deteriorate and result in the same type of socioeconomic crisis that faced and continues to face Greece, if not worse.

59. A parallel can be drawn between the recent economic crisis in Greece and the crisis that presently confronts Puerto Rico. This Greek experience supports my opinions regarding minimum real growth thresholds and how stricter measures to reduce deficits further and faster are not viable. Specifically, based on my academic study of the ongoing economic crisis in Greece, I understand that Greece's residents faced *greater* barriers to emigration than do the residents of Puerto Rico. Although in theory Greece's residents had the option of going to other countries in the European Union, it is my belief that the fact that because (i) the European Union was struggling through a recession and (ii) the Greek language is not widely spoken in the European Union, the barriers to outmigration from Greece were substantial. These barriers to outmigration seemingly allowed for even stricter fiscal measures to be employed in Greece to try and bring the economic crisis to end faster (although in truth their application did lead to tremendous civil unrest – itself a major problem). However, the ability to impose stricter fiscal measures is not viable (even if one considered it) in Puerto Rico because residents of Puerto Rico are U.S. citizens who can move with relative ease to the U.S. mainland, which has recovered from the global financial crisis and where Spanish is widely used in many areas (such as Florida – a likely place for Puerto Rico emigrants to relocate). Simply put, imposing greater austerity on the people of Puerto Rico would accelerate the problems for which solutions were being sought (*i.e.*, it would generate the opposite effect).

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on July 31, 2017.

  
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Andrew Wolfe